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10/713,130	11/14/2003	Yoshinori Tomita	450100-02029.1	9561

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FROMMER LAWRENCE & HAUG, LLP.
745 FIFTH AVENUE, 10TH FLOOR
NEW YORK, NY 10151

EXAMINER	
WERNER, DAVID N	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/713,130	TOMITA ET AL.	
	Examiner	Art Unit	
	David N. Werner	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11,12,14-17,19-24,35,49-53,55-58,60-65 and 67-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11,12,14-17,19-24,35,49-53,55-58,60-65 and 67-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/378,595.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20080423*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action for US Patent Application 10/713,710 is responsive to communications filed 27 May 2008, in reply to the Non-Final Rejection of 28 March 2008. Currently, claims 11, 12, 14-17, 19-24, 35, 49-53, 55-58, 60-65, and 67-70 are pending. Of those, claims 69 and 70 are new.

2. In the previous Office action, the specification was objected to for an informality. Claim 11 was objected to for an informality. Claims 14, 15, 38, 39, 55, and 56 were rejected under 35 U.S.C. 112, second paragraph, for lack of antecedent basis for claimed subject matter. Claims 11, 12, 14, 16, 17, 20, 23, 24, 35, 36, 38, 40, 41, 44, 47-53, 55, 57, 68, 61, and 64-68 were rejected under 35 U.S.C. 103(a) as obvious over US 6,111,604 A (Hashimoto et al.) in view of US 6,148,031 A (Kato). Claims 13, 15, 18, 19, 37, 39, 42, 43, 54, 56, 59, and 60 were rejected under 35 U.S.C. 103(a) as obvious over Hashimoto in view of Kato and ISO/IEC 11172-1 (MPEG-1 Part 1). Claims 21, 22, 45, 46, 62, and 63 were rejected under 35 U.S.C. 103(a) as obvious over Hashimoto et al. in view of Kato and US 6,327,423 B1 (Ejima et al.).

Response to Amendment

3. Applicant's amendment to the specification is insufficient to overcome the objection presented in the previous Office action, but the amendment clarifies Applicant's original intent. It is suggested that the sentence should be amended further to read: "However, MPEG1 (ISO-1172-2) standard defines that the minimum frame rate

is either 25 Hz for PAL or 29.97 Hz for NTSC." The current description of frame rate in terms of megahertz means that there are millions of frames per second.

4. Applicant's amendment to claim 11 has been fully considered. The objection to claim 11 is withdrawn.

5. Applicant's amendments to claims 11, 35, and 52 have been fully considered. The rejections of claims 14, 15, 55, and 56 under 35 U.S.C. 112, second paragraph are withdrawn.

Response to Arguments

6. Applicant's arguments with respect to claims 11 and 52 have been considered but are moot in view of the new ground(s) of rejection. Applicant states that none of the references previously cited disclose the claimed limitation of encoding a time period of a P or B picture data as the same as a time period of encoded audio data. However, it is respectfully submitted that it was known in the art at the time of the present invention to sync audio data to each frame of video data. This process is called "locked audio", and was known at the time of the present invention, for example, in the DV standard (IEC 61834).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 11, 12, 14-17, 19-24, 35, 49-53, 55-58, 60, 61, 64, 65, and 67-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,111,604 A (Hashimoto et al.), in view of US Patent 6,148,031 A (Kato), and in view of ISO/IEC 11172-1 (MPEG-1 Part 1). Hashimoto et al. teaches a digital camera. Regarding claims 11, 35, and 52, figure 8 of Hashimoto et al. shows a block diagram of the camera. Image photographing section 6 comprises lens 7, lens opening 8, imaging element 9, and filter 10. The analog input image signal is converted in analog/digital converter 4 and further processed in DSP 11 (column 6: lines 40-61). This corresponds with the claimed “photographing means”. Audio signals are input into microphone 1 and output through amplifier/filter 2a to analog/digital converter 4 (column 6: lines 18-26). This corresponds with the claimed “audio inputting means”. Image data compression/expansion circuit 12 encodes the images from DSP 11 in a format such as JPEG or MPEG (column 6: line 62–column 7: line 2). This corresponds with the claimed “video encoding means” that performs the steps of “encoding the video signal” in the two encoding methods in claims 35 and 52. Figure 11 of Hashimoto et al. illustrates the process for capturing video and information. When the user presses the shutter button, a first picture with associated audio is captured. Image and audio files are stored in memory card 16, and an association file is written to link the image and audio files together (column 9: lines 46-54). The association file may be a container file for a still image, a still image with audio data, or a moving image with audio data (column 10: lines 1-8). However, in Hashimoto et al., no clear distinction is made

between various encoding modes for the recorded pictures. In the example given in column 9: line 55–column 10: line 4, audio may be associated with a still JPEG image, or a moving MJPEG image, or an MPEG image (column 6: line 65), which was known in the art at the time the invention was made to incorporate sound data.

Kato teaches an image processing system in a digital camera. Regarding claims 11 and 35, in Kato, in a continuous imaging mode, input images are initially recorded in real time in an intra mode as a succession of JPEG images, and stored in memory 20 (column 3: lines 41-47). In a still image mode, the input image is recorded in memory 20 as a single JPEG image (column 3: lines 47-53). After recording is finished, system control circuit 26 re-encodes the recorded series of intra images in an inter-frame compression mode (column 3: lines 54-63). This system control circuit corresponds with the claimed "controlling means" of claim 11, and the selection of a still image mode or a motion image mode in Kato corresponds with the claimed recording mode selection in claims 35 and 52.

Hashimoto et al. discloses a majority of the claimed invention except for encoding pictures according to two different encoding methods. Kato teaches that it was known to encode motion image data in a separate format than still image data. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camera of Hashimoto et al. to re-encode pictures having a temporal aspect, such as pictures with associated sound, as inter-frame encoded images after encoding, as taught by Kato, since Kato states in column 2: lines 16-34 that such a modification would enable the final recording to be achieved with

higher compression than with intra pictures alone, while maintaining the ability for a user to record a high-quality still image during the motion image recording process. However, while the present invention is directed to multiplexing an encoded picture signal and an encoded audio signal, Hashimoto et al. does not give details of its process of "combining" a video file and an audio file (column 11: lines 34-42).

MPEG-1 Part 1 defines the system coding layer of an MPEG-1 coded data stream, in which audio and video data streams are multiplexed (forward). Regarding claims 11, 35, and 52, Section 1-A.6.3 illustrates a sample multiplexing of a stream having one video and one audio stream. The stream is divided into packs, each of which has a header and three packets, each of 2048 bytes. First, 13 video packets are transmitted to ensure successful buffering. Then, an audio packet is placed for every 6.25 video packets. Section 1-A.6.9 shows an extended sample multiplexed data stream. Here, a second audio packet is placed between the twentieth and twenty-first video packets. However, while in the shown example, one audio packet is placed for multiple video packets, the examiner takes Official Notice that it was known in the art for audio and video packets to be correlated in a 1:1 ratio, as in the "locked audio" of DV, in which one audio pack is present for each frame. Such a modification would ease linear editing to prevent mismatches between audio and video data streams at a start point or an end point of an edited segment.

Hashimoto et al., in combination with Kato, discloses the claimed invention except for multiplexing an audio and picture signal. MPEG-1 Part 1 teaches that it was known to produce a multimedia datastream by multiplexing packets of audio and video

data. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the combination of a video and audio file in Hashimoto et al. as a multiplexing operation, as taught by MPEG-1 Part 1, since MPEG-1 Part 1 states in the Introduction that such a modification would allow for synchronized playback of audio and video data without having to buffer an entire sub-stream.

Regarding claims 12 and 53, in Kato, "the JPEG standard is used in the still image compression and the MPEG standard is used in the moving image compression" (column 9: lines 12-14).

Regarding claims 14 and 55, figure 12 of Hashimoto et al. shows video files and audio files stored in separate areas of memory card 16.

Regarding claims 15 and 56, in Kato, as mentioned previously, video data is first stored in first memory 20 and then transferred to second memory 22 (column 3: lines 54-63). This corresponds with writing multiplexed data to memory, reading the multiplexed data from memory, and recording multiplexed data on a recording medium. Additionally, in Kato, during the recording of a moving image, a still image from the sequence of moving images may be additionally transferred from the first memory to the second memory as an intra picture in an independent process of the moving picture recording (column 4: lines 1-10). This corresponds with encoding a video signal in the "first" encoding method, writing the signal to the memory, reading the signal from the memory, and recording the signal to the recording medium.

Regarding claims 16 and 57, figure 5 of Kato shows a compressed video encoder including DCT circuit 107, quantizing circuit 108, and variable length coding circuit 115 (column 5: line 60–column 6: line 24).

Regarding claims 17 and 58, figure 12 of Hashimoto et al. illustrates audio and video files stored in the memory as having headers.

Regarding claims 19 and 60, an MPEG-1 pack, containing 3 packets, is designed to have a pack rate of 29 Hz, or 1 frame per pack (Section 1-A.6.3).

Regarding claims 20 and 61, Kato temporarily stores incoming data on first memory 20, and after re-encoding, permanently stores the data on second memory 22 (column 4: lines 45-55, “the second memory 22 is the final storage medium”).

Regarding claims 23 and 64, in Hashimoto et al., image data compression circuit 12 may also perform image decoding (column 6: lines 62-66), and so corresponds with the claimed “video decoding means”. The decoded video signals may be further processed in DSP 11 (column 6: lines 58-61), which outputs a video signal 26 to a display such as an LCD viewfinder (not shown in figure 8). This display corresponds with the claimed "displaying means”. Digital audio signals may also be decoded in audio data compression/expansion circuit, transmitted to D/A converter, amplified and filtered in amplifier 2b, and output in output stream 26 to speaker 32 (column 5: lines 17-39). This corresponds with the claimed “audio outputting means”. This process of reading data stored in memory card 16 (column 7: lines 34-50), like all other processes of the camera of Hashimoto et al., is controlled by CPU 23 (column 7: lines 15-16), which corresponds with the claimed "controlling means".

Regarding claims 24 and 65, the CCD in Hashimoto et al. has a resolution of 768 x 480 pixels (column 6: line 44), and Kato inputs images at a resolution of 720 x 480 pixels, in accordance with the NTSC standard (column 4: line 15), and produces an output of 320 x 240 pixels (column 4: line 24), in accordance with the CIF format. Although neither Hashimoto et al. nor Kato et al. record pictures at the VGA 640 x 480 pixel standard, it would have been an obvious matter of design choice to modify the image sensing portion of camera of Hashimoto et al. or of Kato to produce 640 x 480 pictures, since it has been held that a change in size of a component is generally recognized as being within the level of ordinary skill in the art. See *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 49, in Kato, as shown in figure 1, system control circuit 26 controls both the image compression circuit 18, first memory 20, and second memory 22 (column 3: lines 41-63). This system control circuit corresponds with the claimed "controlling means".

Regarding claims 50 and 67, in Hashimoto et al., incoming image data from a camera is processed in noise reduction circuit 10 and DSP 11 (column 6: lines 40-61), and incoming audio data from a microphone is processed in amplifier/filter 3a (column 6: lines 18-21).

Regarding claims 51 and 68, in Hashimoto et al., figure 14 illustrates the flowchart for transmitting and receiving data from the camera to an external device (column 10: line 41–column 11: line 42). Data from the memory card is transferred to FIFO 13 (column 11: lines 25-29), and transmitted to an external device via interface

circuit 27 (column 7: lines 1-36). Like every other process in the camera of Hashimoto et al., this process is controlled by CPU 23 (column 7: lines 15-16), which corresponds with the claimed "controlling means".

Regarding claims 69 and 70, in Kato, digital signal processor circuit 14 corresponds with the claimed "first picture encoder" that performs the step of receiving a picture signal. In Hashimoto et al., audio data compression circuit 3 corresponds with the claimed "second encoder" that performs the step of receiving an audio signal. In Kato, image compression circuit 18 corresponds with the claimed "picture generation" that performs the claimed step of "generating fixed data". In Hashimoto et al., FIFO 13, which combines audio files and image files (column 11: lines 43-61), corresponds with the claimed "third encoder" that performs the claimed step of "multiplexing".

9. Claims 21, 22, 62, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. in view of Kato and MPEG-1 as applied to claims 11 and 52 above, and further in view of US Patent 6,327,423 B1 (Ejima et al.). Claims 21, 22, 62, and 63 are directed to specific operations of causing a camera to perform a capture for a certain time. Hashimoto et al. teaches taking pictures when a shutter button is pressed (column 7: lines 20-24), and Kato teaches operating a keyboard to issue image taking commands (column 3: lines 41-53). However, the above references do not teach operation for a “time period” to generate data.

Ejima et al. teaches a camcorder that records sound data. Regarding claims 21 and 62, figure 14 is a flowchart illustrating one embodiment of the sound recording

control process of Ejima et al. At step S1, CPU 39 determines if a release switch 10 is pressed, and if it is, the image recording process begins at step S2 (column 15: line 64–column 16: line 3). At step S3, the sound recording process is started, and at step S4, a "REC" display is shown on a viewfinder to indicate that sound is being recorded (column 16: lines 4-11). At step S5, after 10 seconds have passed, the sound recording process stops (column 16: lines 11-16, 34-40). However, if a sound recording switch is pressed within 10 seconds at step S6, sound recording continues (column 16: lines 14-23, 44-50). The sound recording then ends when the sound recording switch is released at step S20 (column 16: lines 23-50). Then, sound recording switch 12 corresponds with the claimed “operating means”, and the time period in which the sound recording switch is pressed corresponds with the claimed “timing means”.

Hashimoto et al., in combination with Kato and MPEG-1, discloses the claimed invention except for encoding audio during the pressing of an operation means. Ejima et al. teaches that it was known to perform sound recording while a sound recording switch is pressed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the sound recording switch of Ejima et al. into the camera of Hashimoto et al. or Kato, since Ejima et al. states in column 1: line 60–column 2: line 20 that such a modification would allow the timing of a sound recording to be independent of the timing of its associated video recording.

Regarding claims 22 and 63, in Kato, if sound recording switch 12 is not pressed, then release switch 10 corresponds with the claimed “operating means”, and the ten seconds is the “predetermined time period” in which audio is encoded.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,572,333 A (Moriyama et al.) teaches a video recording method that places video frames into packets of a fixed number of frames. US Patent 5,715,356 A (Hirayama et al.) teaches a system for generating a compressed multimedia bitstream in which video data and audio data is placed within "groups" of a fixed number of image frames. US Patent 5,758,180 A (Duffy et al.) teaches a video editing system that adjusts the synchronization between audio and video data. US Patent 6,108,486 A (Sawabe et al.) teaches an audio recording system that divides an audio track into "frame" units inside audio packs. "DV Data in the AVI File Format Specification" shows that the DV format was known in the art at the time of the present invention.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Werner, whose telephone number is (571)272-9662. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessfully, the examiner's supervisor, Mehrdad Dastouri, can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D.N.W./
Examiner, Art Unit 2621

/Mehrdad Dastouri/
Supervisory Patent Examiner, Art Unit 2621